

# TC 4.5 Program Subcommittee Meeting Minutes

Sunday, June 25, 2000

4:00 – 5:00 p.m.

Lake Nokomis Room  
Minneapolis Hyatt  
Minneapolis, Minnesota

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## *Attendees[17]:*

Michel Bernier/Polytechnique Montreal  
Dragan Curcija/Univ. of Massachusetts  
François Dubrous/NRCan  
William duPont/LBNL (Chair)  
Hakim Elmahdy/NRC  
Marcia Falke/Keystone Certification  
Brent Griffith/LBNL  
Howdy Goudey/LBNL  
Joseph Klems/LBNL

Christian Kohler/LBNL  
Jim Krahn/Marvin Windows  
Steve Harrison/Queen's University  
Alex McGowan/Levelton Engineering  
Bipin Shah/NFRC  
David Tait/Tait Solar Company  
Sam Taylor/U.S. DOE  
John Wright/Univ. of Waterloo

I. Introductions, and Marcia Falke agreed to be secretary

## II. Minneapolis Program, June 24-28, 2000

**Symposium MN-00-07:** "Energy and Thermal Performance of Skylights and Complex Window Systems", *Chair: Christian Kohler/LBNL*

- 1) "Surface Temperature Measurements Inside an Insulated Glazing Unit Using Liquid Crystals", *Stephane Halle and Michel Bernier/Ecole Polytechnique de Montreal*
- 2) "Experimental Procedure and Uncertainty Analysis of a Guarded Hotbox Method to Determine the Thermal Transmission Coefficient of Skylights and Sloped Glazing", *Hakim Elmahdy & Kamel Haddad/NRC*
- 3) "U-Value of Flat and Dome Skylights", *Joseph Klems/LBNL*

**Seminar 21:** "Critical Issues Related to the Condensation Resistance of Windows", *Chair: François Dubrous /NRCan*

- 1) "Computer Models of Window Condensation – Wish List", *Alex McGowan/Levelton Engineering*
- 2) "Condensation Resistance Indices – New Performance Criteria for an NFRC Label", *Dragan Curcija/Univ. of Massachusetts*
- 3) "Effects of Air Leakage on the Condensation Resistance of Windows", *Hakim Elmahdy/NRC*
- 4) "The Vertical Glazing Cavity - Flow Visualization", *John L. Wright/Univ. of Waterloo*
- 5) "Temperature Mapping Research for Condensation Resistance of Windows", *Brent T. Griffith/LBNL*

**Deadlines: Technical Papers were due to ASHRAE on October 1, 1999;**

**All reviewed paperwork with TC Chair signature to ASHRAE: January 24, 2000.**

### **III. Atlanta Program, January 27-31, 2001**

#### **[2] Symposium [Co-sponsor with TC 4.4]: “Curtain Walls”, *Chair: Alex McGowan/Levelton Engineering***

- 1) “Compendium of Curtain Wall Design Case Studies”
- 2) “Transfer of Heat, Moisture and Air Through Metal Curtain Walls”
- 3) “A Certification and Rating Program for Thermal Performance of Curtain Wall Systems”
- 4) “Aluminum Curtain Wall Systems and Joints”
- 5) “Rainscreen”

#### **[1] Symposium: “Issues in Fenestration Evaluation”, *Chair: Joe Klems/LBNL***

- 1) “Effect of Tilt Angle and Temperature Difference on the Solar Heat Gain Coefficient Measurement of a Fenestration System”
- 2) “Test of Measured Solar Heat Gain Variation in a Fenestration and Shade Combination with Respect to Test Specimen Tilt”
- 3) “Solar Heat Gain Coefficient of a Black Opaque Panel Using an Outdoor Solar Calorimeter in Tempe, Arizona”
- 4) “The Effects of Calorimeter Tilt on the Inward-Flowing Fraction of Absorbed Solar Radiation in Venetian Blinds”
- 5) “A Simplified Analysis of Radiant Heat Loss Through Fenestration Systems”

**NOTE: Numbers in brackets, [ ], indicate priority as decided by TC 4.5 Committee Vote**

**Deadlines: Technical Papers were due to ASHRAE on April 7, 2000;**

**TC 4.5 Symposium Papers were due to Symposium Chairs on April 7, 2000;**

**All reviewed paperwork with TC Chair signature to ASHRAE: August 4, 2000.**

Submit 1 copy of packet material to ASHRAE (Mary McGee, Meeting Program Administrator)

NOTE: When submitting paperwork to ASHRAE be sure to include any special requests, i.e., day of the week you need to present or time (i.e., prefer Sunday or Monday). Please also inform your Section 4.0 Program Liaison of this information.

### **IV. Cincinnati Program, June 23-27, 2001**

#### **Symposium: “Infrared Temperature Measurements and Computer Simulation of Window Assemblies”, *Chair: François Dubrous/NRCan***

- 1) “Computer Simulation of Specimens Using FIDAP”
- 2) “Computer Simulation of Specimens Using THERM”
- 3) “Test of Specimens Using Infrared Temperature Measurements”
- 4) “Test of Specimens Using Infrared Temperature Measurements”
- 5) “Summary of Test and Simulation Results”

#### **Symposium: “Issues in Window Frame Evaluations”, *Anil Parekh/NRCan***

- 1) “3D Conjugate Computational Fluid Dynamics Simulations of Internal Window Frame Cavities Validated Using Infrared Thermography”
- 2) “Natural Convection Effects in Three-Dimensional Window Frames with Internal Cavities”
- 3) “Correlations for Frame Cavity Heat Transfer Using CFD and 2D Tools”
- 4) “Solar Heat Gain Coefficient Calculations for Frames Using 2D FEA Tools”
- 5) “Condensation Resistance Simulations”
- 6) “Air Leakage and Condensation Resistance Testing”

**Cincinnati Program, June 23-27, 2001** *(continued)*

**Symposium:** “Approaches to Evaluating Fenestration”, *Chair: unknown*

- 1) “Comparison of Results from the NFRC Solar Heat Gain Research Project”
- 2) “Annual Energy Performance of Skylights”
- 3) “Warm Edge Technology”
- 4) “Detailed Modeling of Sunlit Venetian Blinds”
- 5) “Simplified Methods of Evaluating Shading Attachments”
- 6) “Variable-h Model for Improved Prediction of Surface Temperature in Fenestration Systems”
- 7) “Use of Detailed Radiation Modeling in Predicting Heat Transfer of Fenestration Systems”
- 8) “Calculation of Condensation Resistance Indices Using Computer Modeling Tools”
- 9) “Results and Lessons of NFRC Round Robin Testing and Simulations”

**Deadlines: Technical Papers are due to ASHRAE on September 29, 2000;**

**TC 4.5 Symposium Papers are due to Symposium Chairs on September 29, 2000;**

**All reviewed paperwork with TC Chair signature to ASHRAE: February 9, 2001.**

**V. Atlantic City Program, January 12-16, 2002**

**Symposium:** “Specifying the Right Windows for Your Job”, *Chair: François Dubrous/NRCan*

**Symposium:** “Evaluation of Shading Devices”, *Dragan Curcija/Univ. of Massachusetts*

**VI. Adjourn**

*Respectively Submitted: Marcia Falke/Keystone Certification*